

ABSTRACT

A mask comprises a mask substrate and at least one annular equal line space phase shifting pattern on said mask substrate to produce an opaque region on a semiconductor substrate. A method of manufacturing a mask comprises providing a mask substrate; forming a layer of resist material on said substrate; patterning at least one annular equal line space phase shifting pattern on said resist layer; patterning said pattern onto said mask substrate; removing a remaining portion of said resist layer. A method of transferring a pattern onto a semiconductor substrate comprises illuminating a mask comprising at least one annular equal line space phase shifting pattern on the mask to produce an opaque region on a semiconductor substrate.